NOTE II.

ON VARIOUS SPECIES OF MUS, COLLECTED BY S. C. I. W. VAN MUSSCHENBROEK ESQ. IN CELEBES,

BY

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Last year we received from S. C. I. W. van Musschenbroek, Ex-Resident of Menado, a large collection of Mammalia and Birds; and among them the following species of the genus *Mus* of Celebes. Four species are new to science and another species is new to the Celebian Fauna.

It should here be observed, that the different authors, describing new species of Mice, have not paid attention enough to the nature of the fur which is nevertheless of special importance. For instance, *Mus speciosus* and *Mus argenteus*, both described and figured by Temminck, Fauna japonica, 1843, p. p. 51 and 52, tab. 15, may be very easily confounded. Reading the descriptions one would think them to be the same species, the only difference being the longer tail of *Mus argenteus*. But in studying the types found in the Leyden Museum, it is evident that Temminck has omitted to remark that the fur of *Mus argenteus* consists of woolly hair only, that of *Mus speciosus* on the other hand of hair which is woolly and spinous. In fact, in the latter species the woolly hairs of the upper and lower parts of the body are mixed with numerous flexible spines: on the back they are slate-coloured near the base, rusty towards the tip, on the belly they are entirely white; the woolly hairs being here slate-coloured near the base and for the rest of a pure white.

A simular phenomenon may be observed in the African Squirrels, among which occur the only species with harsh spines. Every one who has been engaged in the study of these species must confess that it is exceedingly difficult to distinguish them accurately, because the describers of new species hardly ever pay attention to the nature of the fur. Without having seen the types it is next to impossible to determine the species with exactness.

My reason for not giving a generic name, for instance *Acanthomys* or *Acomys*, to the species of Mice with spinous hairs, is that, in doing so, I should make an artificial division, dislocating species which belong together in a natural system. If moreover it would be advisable to distinguish by a generic name the Mice with harsh and strong spines, it would be equally necessary to combine into a separate genus those species of Mice of which the spinous hairs, although flattened and mostly channeled, are so narrow and flexible as not to deserve the name of »spines".

With the African Squirrels the case is different. The sciuri with harsh spines are here separated under the name »*Xerus*", and with good reason. They are Ground-Squirrels and differ in habits and habitation from the other soft hairy African Squirrels.

I. WITH SPINOUS HAIRS.

1. *Mus leucopus.*

Acanthomys leucopus, Gray, P. Z. S. L. 1867, p. 598.

n. i. toerean in pate.

Upper parts grayish brown; sides of nose, cheeks, chin, throat, belly and inside of legs, white. Tail longer than head and body, thinly covered with short hairs, longer near the tip, forming a little tuft. Whiskers, much longer than the head, brown at the base, for the rest white. The fur of the back is composed of three kinds of hair: 1°. woolly hairs, very thin, undulating, white: 2°. bristles, brown, longer than the rest of the fur, and: 3°. spinous hairs, very flat, white, channeled, brown near the tip. The fur of the under surface with two kinds of hair: 1°. woolly as on the back, but shorter, and 2°. spinous hairs, entirely white.

The ears are nearly naked, rounded at the tip. The upper cutting-teeth are orange, the lower ones much lighter coloured.

This species agrees with the species described by Gray, l. c., but Gray gives no measurements.

Two specimens (Leyden Museum).	m. m.
Head and body	150
Tail with tuft	168,5
Ear	14,5
Hind foot	25
Length upper molar series	5
Distance between incisor and first upper molar.	9
» » » » » lower »	4,5

Hab: Cape York (Mr. Damen); Celebes, Menado (v. Musschenbroek).

Alston, P. Z. S. L. 1877, p. 124, remarks in a note: »that this species requires to be renamed, Gray's specific »name being preoccupied by the common North-American »Mouse, *Mus leucopus*, Rafinesque". But as the latter species belongs to the group, named »*Hesperomys*", we will retain Gray's name for the Indian Mouse in question. If, however, Alston objects to the name of this species, he should also reject the name (*Uromys*) »*rufescens*", P. Z. S. L. 1877, p. 743 and adopt the specific name »*musavora*" Pierson-Ramsay, because under the name of *Mus rufescens*, a mouse was already described by Gray, Ann. and Mag. Nat. Hist. 1837, p. 585.

2. *Mus Musschenbroekii*, n. sp.

n. i. kalendang and wangetan.

Upper parts chestnut. Cheeks, throat, chest, belly and inside of legs, white. The back is covered with two kinds of hair: 1°. woolly hairs, slate-coloured, with chestnut tips, and 2°. spinous hairs, white with dark brown tips; the latter especially numerous from the neck to the rump, thus giving a darker tint to these parts. The hairs on the under parts of the body are soft, slate-coloured with white tips.

Tail shorter than head and body, thinly covered with hairs. Ears rounded at the tip, elongated, nearly naked. Whiskers dark with white tips, short. Upper cutting-teeth light orange, the lower ones bright yellow.

Two specimens (L. M.).	m. m.
Head and body	175
Tail	124
Ear	16
Hind foot	31
Length molar series	6
Distance between incisor and first upper molar	8,5
» » » » » lower »	4

Hab: Celebes, Menado (v. Musschenbroek).

I propose to name this new species after Mr. v. Musschenbroek, who has frequently given ample proofs of his strong and unceasing interest in the science of zoology.

3. *Mus xanthurus.*

Gray, P. Z. S. L. 1867, p. 598.

n. i. torean.

Upper parts generally tawny, on the back mixed with black. The woolly hairs are gray with brownish tips: intermixed are a few flexible spines, white near the base, with dark brown tips. The bristles are entirely dark brown.

On the neck these bristles are as long as the woolly hairs, longer and blacker on back and rump and projecting beyond the base of the tail. Cheeks, chin, throat, chest, belly and inside of legs entirely of a pure white. Tail longer than head and body, with a few short hairs, longer towards the tip, forming a little tuft. Tail black at the base for about one third of its length, for the rest yellow.

Ears rounded, short and naked. Whiskers short, dark with white tips.

Upper cutting-teeth yellow, lower ones nearly white.

Nine specimens (L. M.)	m. m.
Head and body	245
Tail with tuft	300
Ear	22
Hind foot	50
Length of molar series	8
Distance between incisor and first upper molar	16
» » » » » lower »	8

Hab: Celebes, Tondano (Wallace), Menado (v. Musschenbroek).

II. WITHOUT SPINOUS HAIRS.

4. *Mus Hellwaldii*, v. Musschenbroek, in litt.

n. i. loemandeng.

Upper parts chestnut, darker on the back. Throat, chest, belly, and inside of legs, pure white. Tail shorter than head and body, thinly covered with hairs. Whiskers larger than head and ear, entirely white or brown with white tips. Ear elongated, rounded at the tip, naked. Back with two kinds of hair: 1°. woolly hairs, slate-coloured, chestnut at the tip and 2°. bristles, longer, cylindrical, slate-coloured with black tips. Cutting-teeth yellow.

Two specimens (L. M.).	m. m.
Head and body	235
Tail	160

Ear	24
Hind foot	41
Length molar series	7
Distance between incisor and first upper molar	11
» » » » » lower »	6

Hab: Celebes, Menado (v. Musschenbroek).

5. *Mus callitrichus*, n. sp.

n. i. mea, pengaladen, pangoesaio, tangkara and loemalapait.

Upper parts bright brown. Woolly hairs slate-coloured with light brown tips; before the tip a brown ring. Longer and more solid hairs, slate-coloured with long brown tips are intermixed with them. Throat, chest, belly and inside of legs covered with short hairs, slate-coloured with bright yellowish-brown tips. Lips with pure white hairs. Tail shorter than head and body, white towards the tip, for the rest black, with a few hairs. Whiskers entirely brown or white tipped.

Ears very widely opened, broad, rounded.

Upper cutting-teeth orange, the lower ones lighter coloured.

Twelve specimens (L. M.).	m. m.
Head and body	240
Tail	210
Ear	20
Hind foot	46
Length upper molar series	10
Distance between incisor and first upper molar	13
» » » » » lower »	7

Hab: Celebes, Menado (v. Musschenbroek).

6. *Mus Meyeri*, v. Musschenbroek, in litt.

n. i. pengaladen.

The upper parts generally tawny. Head, back and outside of legs covered with two kinds of hair. 1°. woolly, light brown with very long sparkling white tips, and 2°. longer hairs, brown at the base and also sparkling white towards the tips. The under parts of the body and inside of legs are covered only with the first kind of hairs.

Tail shorter than head and body, with only a few hairs, black near the base, yellowish white towards the end. Ears elongated, short, rounded.

Whiskers brown, white tipped.

Cutting-teeth yellowish white, the upper ones very large and solid.

One specimen (L. M.).	m. m.
Head and body	290
Tail	270
Ear	22
Hind foot	46
Length upper molar series	13
Distance between incisor und first upper molar	13,5
» » » » » lower »	8

Hab: Celebes, Menado (v. Musschenbroek).